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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/499,609	02/07/2000	Stefan Ridderheim	PM261690	1500

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PILLSBURY WINTHROP LLP  
ATTENTION: DOCKETING DEPARTMENT  
11682 EL CAMINO REAL, SUITE 200  
SAN DIEGO, CA 92130

EXAMINER

KOSTAK, VICTOR R

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 03/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/499,609

Applicant(s)

RIDDERHEIM ET AL.

Examiner

Victor R. Kostak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-80 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. Note MPEP 606.01.
2. The drawings are objected to because all block circuitry must be functionally labeled in compliance with rules 83(a) and 84(o). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. Claims 20 and 70 are objected to because of the following informalities: claim 20 must end in a period; and because claim 70 recites "an end user units", it is not clear if a single unit or plural units were intended to be recited . Appropriate correction is required.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 43 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. The term "small" or "very small" in claim 43 is a relative term which renders the claim indefinite. The term "small" or "very small" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. What may be considered a "very small" aperture by a first skilled artisan may not be by the next or any other skilled artisan.

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 26, 46 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esch et al.

The system of Esch (noting particularly Figs. 2, 3 and 5) includes a central broadcasting cite 31 (Fig. 1) which combines a media segment (e.g. a commercial) with additional signal including a control signal and various other information signals (col. 1 line 62 – col. 2 line 16), the insertion control being connected to central source broadcast equipment (requisite circuitry used for the composite signal formation shown in Fig. 3). Respective plural remote stations (e.g. cite 33) receive the composite signal from the central cite and with an insertion control unit (computer 36 in Fig. 2) and upon recognition of the control data and information signals, the composite signals are rebroadcast to user ends as a composite media segment (noting element 109 in Fig. 5 which generates the signal combining). Also included is a cue signal that transfers information about data segments (e.g. col. 2 lines 33-42; element 116 controlled by control processor 109 in Fig. 5).

Although an “action” signal is not specifically recited, Esch inherently triggers an insertion of the media segment (as the media segment is inserted inevitably and eventually at some point in time) according to a prompt dictated by the scheduling processor 71, which one of ordinary skill in the art can reasonably designate as an “action” signal.

Furthermore, although the insertion process of Esch is not called "frame accurate" insertion, one of ordinary skill in the art can also reasonably designate or at least consider the insertion process as involving an acceptable degree of accuracy since the composite signal received by the user must be adequate for viewing and for keeping viewers interested, and since the A/V data is structured as a frame sequence with data inserted in some manner according to the frame structure, thereby meeting claim 1.

As for claim 26, Figs. 3 and 4 show the arrangement of the central cite, and Fig. 5 depicts the remote cite. The central station includes storage for content (elements 63 and 76), control data and logging (schedule) data (elements 72, 50 and 61). A processor 81 is also incorporated for controlling and monitoring the composite A/V signal. The remote cite which receives the composite data from the central cite also includes storage elements for various signal types to be combined with the original A/V data, and a control processor 109 for managing and monitoring the reassembled modified data for rebroadcasting. Switch 118 links the remote cite to the user stations.

The headend at the central cite also includes external communication with various studio devices (e.g. elements 73-76), each respectively interfacing LAN 51 (data communications unit). The LAN is coupled directly to control processor 78, wherein the various devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces as shown. Network processor 83, modulator 85, and transmitter 84 operate together to generate an encoded composite signal for satellite communication to the remote cite (encoding first mentioned in col. 4 line 66). Cue signals are also included, as noted previously, as well as an action signal, also discussed above.

As for claim 46, both the central and remote cites include media players (VTRs 37 and 43 shown in Fig. 2), the remote cite including a composite element 42 (universal platform) which serves as a processor for controlling switching (using matrix switch 44) among broadcast signals and media segments (commercials) being played by the player units, platform 42 further used to control segment insertion according to the control signals (the cue and action signals addressed above).

9. Claims 2-19, 21-38, 40-58, 60-74 and 76-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esch et al. in view of Martinez.

Although Esch does not explicitly state that he uses the VBI for control data insertion, he does point out that his system is capable of utilizing broadcast protocols, band-edge, sub-carrier, and the VBI for unspecified purposes (col. 3 lines 4-7).

Martinez explicitly uses the VBI for teletext insertion in his composite A/V broadcasting system (e.g. col. 2 line 64), and one of ordinary skill in the art is well aware that the VBI is typically used for insertion of auxiliary data by virtue of its generous capacity and exclusion to the active video region.

In view of the explicit disclosure of Martinez and the indirect teaching of Esch and the general understanding of the value of the VBI, it would accordingly have been obvious to use the VBI for inserting additional data into the A/V broadcast stream in the communication system of Esch, thereby meeting claims 2, 27, 47 and 63.

As for claims 3, 28, 48 and 64, it would have been obvious for the prompting by the action signal to involve a time reference since the insertion is dictated by scheduling (which is a function of time).

Regarding claims 4, 29, 49 and 65, it would further have been obvious to provide security measures to prevent unauthorized signal interception or monitoring, such as by including a security code (channel ID being inherent since each channel is dealt with individually).

As for claims 5, 30, 50 and 66, it would further have been obvious to inform the headend that the control signal (as well as any additional signal) was properly received, in order to assure that broadcasting (and media insertion) is carried through. Esch in fact includes various communication checks including malfunction checks, integrity checking, accounting and logging (col. 7 lines 40-45).

As for claims 6, 31, 51 and 57, as mentioned above, it would have been obvious to prevent unauthorized signal reception/interception by including any suitable measure therefore. Since encryption/decryption is a very well known way of assuring secure communication, it would accordingly have been obvious to include an encryption key for deciphering media segments (as well as the A/V broadcast).

Considering claim 7, the headend at the central cite also includes external communication with various studio devices (e.g. elements 73-76), each respectively interfacing LAN 51 (data communications unit). The LAN is coupled directly to control processor 78, wherein the various devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces as shown. Network processor 83, modulator 85, and transmitter 84 operate together to generate an encoded composite signal for satellite communication to the remote cite (encoding

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first mentioned in col. 4 line 66), as discussed above. Logging data is also stored (col. 7 lines 44-45).

As for claim 8, a first controller 78 is located at the central cite for remotely controlling and communicating with the central insertion control unit; and the remote cite has a second controller 109 for controlling and communicating with the with the remote insertion unit. The communication between the first controller 78 and the central insertion controller is done through a telecommunications line (LAN 51).

As for claim 9, both the central and remote cites include media players (VTRs 37 and 43 shown in Fig. 2), the remote cite including a composite element 42 (universal platform) which serves as a processor for controlling switching (using matrix switch 44) among broadcast signals and media segments (commercials) being played by the player units, platform 42 further used to control segment insertion according to the control signals (the cue and action signals addressed above). Since it would have been obvious to use the VBI as the signal component for containing the control data, the remote receiver would accordingly extract the control signal upon identifying the video portion of the composite A/V broadcast signal. Control processor 109 also controls an A/V switch 118 through switch processor 117 for changing over from the received broadcast signal to the insertion (media) signal retrieved from a player (e.g. 104, 106, 107, 108). Although computer interfacing is not explicitly depicted, it would have been obvious to one of ordinary skill in the art that controller communicates with the players and switcher by way of computer-controlled interface. Esch in fact incorporates an interface 110 to controller 109 and to the players and the processors but does not describe element 110 in any detail. Moreover, the broadcast data is received and transmitted to the interface 110.



Regarding claim 10, a first controller 78 is located at the central cite for remotely controlling and communicating with the central insertion control unit; and the remote cite has a second controller 109 for controlling and communicating with the with the remote insertion unit. The communication between the first controller 78 and the central insertion controller is done through a telecommunications line (LAN 51), as discussed above.

Considering claims 11, 12, 32, 33, 52, 53, 68 and 69, the insertion of the media data is triggered by the scheduler using the cue/action signal, wherein the insertion would be based on the specific A/V program content as well as the context of the immediate broadcasting time (commercial insertion typically being based on the type of program and time of broadcast, as corroborated by Esch in col. 3 lines 56-60).

As for claims 13, 34, 54 and 70, it would have been obvious to one of ordinary skill n the art to use viewer profiling to decide what commercials to download, such as by viewer monitoring which would be fed back to the remote cite, thereby maximizing the marketing of the commercial product by catering to the taste of the viewer.

As for claims 14, 35, 55 and 71, the media insertion is determined by the scheduling originating from the central cite.

Concerning claim 15, Esch stores play lists, log data, and status information (col. 9 line 28+).

As for claim 16, the central insertion controller and the remote insertion controller are connected to a LAN.

As for claim 17, it would have been obvious to use compression on the composite data in order to provide efficient transmission, as is very typically done in broadcasting (Esch mentions digital coding in col. 4 lines 66-67).

10. As for claims 18, 19, 36, 37, 56, 57, 72 and 73, it would have been obvious to be compatible with the teletext format, as taught by Martinez, in order to be able to encode and transmit textual data that would be compatible with known formats (therefore not needing special adapters or reformatting), and transparent to a standard teletext receiver in order to provide separate text data.

As for claims 21-23, the broadcast signal is a television signal that communicated through radio waves in digital form (i.e. by satellite broadcasting).

As for claims 24, 40, 60 and 76, the spare capacity of the broadcast signal is the VBI, as noted above, suggested by Martinez.

Considering claim 25, it would have been obvious to transmit standard or high definition television so as to accommodate as many viewers as possible with TV formats commensurate with their receivers.

As for claims 38, 58 and 74, Esch includes a cue signal to indicate which media segment to insert into the broadcast signal, which is prompted by what the skilled artisan can call an action signal, which inserts the media signal at a specific time.

As for claim 41, the headend at the central cite also includes external communication with various studio devices (e.g. elements 73-76), each respectively interfacing LAN 51 (data communications unit). The LAN is coupled directly to control processor 78, wherein the various

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devices can be considered coupled thereto by the intermediate LAN using respective serial interfaces as shown.

As for claim 42, control commands are transferred through LAN 51.

As for claims 43-45, it would have been obvious to use any suitable telecommunications line that would perform adequately (Esch mentions telephone lines in col. 7 lines 32-36), such as ISDN any line regardless of the aperture size, as long as it works.

As for claim 61, control processor 109 also controls an A/V switch 118 through switch processor 117 for changing over from the received broadcast signal to the insertion (media) signal retrieved from a player (e.g. 104, 106, 107, 108). Although computer interfacing is not explicitly depicted, it would have been obvious to one of ordinary skill in the art that controller communicates with the players and switcher by way of computer-controlled interface. Esch in fact incorporates an interface 110 to controller 109 and to the players and the processors but does not describe element 110 in any detail. Moreover, the broadcast data is received and transmitted to the interface 110, discussed earlier.

As for claim 62, Esch uses the VBI to ensure synchronization for switching (col. 9 lines 9-12).

Regarding claims 77 and 79, it would have been obvious to use the VBI of any given line per respective channels to allow for dedicated processing (and for recognizing channels individually).

As for claim 78, control commands are transferred through LAN 51, as noted earlier.

As for claim 80, schedule slots for media segment insertion are determined by a programming manager, wherein the segments are stored at the remote cite; the central cite

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organizes and controls the insertion by appending a cue signal into the A/V (TV) signal originating from the central cite; the broadcast television signal with the cue signal is in turn sent to the remote cite, and upon detection of the cue signal, the media segment is inserted into the television signal according to the scheduled time. The media segment is accordingly presented broadcast consumers, and the TV signal is rebroadcast (since it was first broadcast to the remote cite) to the consumers. Esch also communicates log and performance data to a monitoring center.

11. Claims 20, 39, 59 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esch et al. in view of Martinez, in further view of Richer et al.

Regarding claims 20, 39, 59 and 75, it would also have been obvious to apply error minimization or correction measures since data is subject to negative influences as a signal in the transmission stage, and since Esch suggests such by including quality measures by elements 62 and 81, and mentions error correction in col. 7 lines 29-30. It would therefore have been obvious to use any suitable well known quality encoding process, such as by the process taught by Richer, who also communicates between central and remote cites using data in the VBI, and since Hamming codes are well known error correction codes.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor R. Kostak whose telephone number is 703 305-4374. The examiner can normally be reached on Monday - Friday from 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**Or faxed to:**

**(703) 872-9306 (for Technology Center 2600 only)**

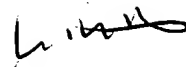
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 308-HELP.

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Victor R. Kostak  
Primary Examiner  
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VRK